

COMBINED RECORD AND DATA PROCESSING SYSTEM IN A GLAUCOMA CLINIC PROGRAM

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ALTHOUGH there is general agreement that the evaluation of health programs is desirable, many problems are involved in the compilation of appropriate and necessary statistical measures for a proper evaluation of data from these programs. These problems are often so formidable that only the most superficial program indices, if any, are compiled, and many potentially useful measures are sacrificed under pressure of the task of tabulating data from clinic records. This is particularly true in the small health department or clinic, where trained personnel and mechanical equipment are not usually available for reducing data to a usable form. Thus, data on particular age, race, sex, socioeconomic, or other definable epidemiologic groups, which might point up program strengths or deficiencies, are not often available for analysis.

Any record system which provides the basic personal and medical data needed in program operation and, at the same time, a simple system for processing statistical data would be extremely useful in alleviating this situation. The IBM port-a-punch card appeared to offer the basis for such a system, and the Division of Chronic Disease, Public Health Service, with the cooperation of the department of preventive medicine, University of Tennessee Medical School, decided to design and field test a system

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using the port-a-punch card as a combined clinic record and data processing card.

The department of preventive medicine has for some time operated a glaucoma detection clinic at the John Gaston Hospital in Memphis. The clinic is operated by a nurse under the supervision of a physician. Its operation is simple and the records and patient flow are uncomplicated. The port-a-punch system was tested in this situation because the clinic had a simple but adequate record system, based on 3- x 5-inch library cards, which could be easily converted to the port-a-punch system. The port-a-punch system proved to be an efficient method of recording necessary patient data and of creating on one record form a card for machine tabulation of statistical data.

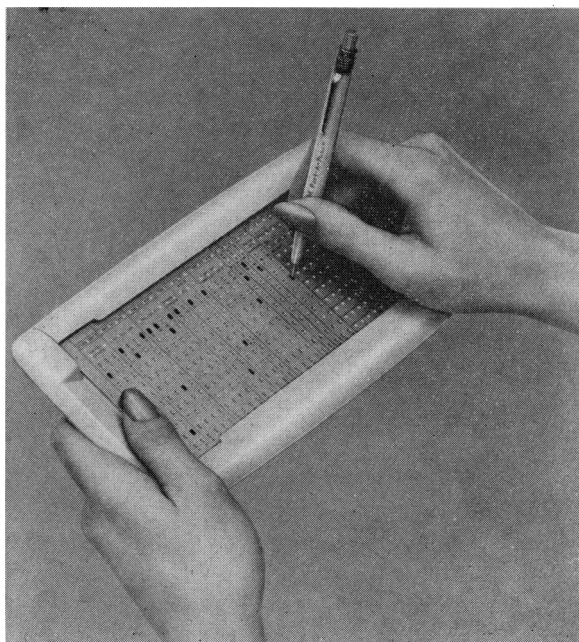


Figure 1. Port-a-punch card in plastic holder

Figure 3. Followup card

LAST NAME				FIRST NAME				MIDDLE NAME				OPD NUMBER				AGE	R-SOURCE	CASE	DATE	RETEST IOP	RETEST OS	INT	PROV	CENT	PERI	HARRING	FUND	DIAGNOS					
STREET ADDRESS												TELEPHONE																					
AGE	RACE	SEX	SOURCE	NEW CASE	OLD CASE	RECHECK	SERIAL NO.																										
EXAMINATION			DATE	RESULT																													
FIRST TENSION																																	
RETEST TENSION																																	
WATER PROVOCATIVE																																	
CENTRAL FIELDS																																	
PERIPHERAL FIELDS																																	
HARRINGTON-FLOCKS																																	
FUNDUS EXAM RESULTS:																																	
DIAGNOSTIC CATEGORY				OD	OS																												
NO EYE DISEASE						SECONDARY GLAUCOMA																											
POSSIBLE GLAUCOMA						OTHER EYE DISEASE																											
CHRONIC SIMPLE GLAUCOMA																																	
0	0																																
40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80													
1	1	NM	HC	NEW			APR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	2	NF	EYE	OLD			MAY	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
3	3	OM	OPD	RCK			JUNE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
4	4	OF	OA				JULY	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
5	5		CL				AUG	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
6	6		MAN				SEPT	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
7	7						OCT	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
8	8						NOV	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
9	9		ND				DEC	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80													

is punched in the date column. In a similar manner, the source and examination results are punched. Appropriate numbers are punched for age and intraocular pressure.

The completed screening card is filed alphabetically, by year, in a four-drawer IBM card file, where it constitutes the patient's clinic record.

Followup Card

Diagnostic examinations are handled in the same manner as screening examinations, and the results are recorded on the followup card shown in figure 3. The followup cards are punched and filed alphabetically and become the clinic record of completed cases.

Tabulating Results

When all the cases seen during the first year of operation of the record system had been closed out, the port-a-punch cards were converted to regular IBM cards on a reproducer. The reproduced cards were edited, inconsistencies were rectified by reference to the

original written entries, and the port-a-punch cards were returned to the files. Tabulations of rates specific for age, race, sex, source, and so on were then made from the reproduced cards. In evaluating the data, tabulations of the screening card data were used for the denominators and tabulations of the data from the followup cards for the numerators of rates.

A small clinic or health department using a system similar to that used in Memphis may arrange with a service bureau for tabulating services on a contract basis or it may have the work done by the State health department.

The port-a-punch record and tabulating system has proved efficient and simple. The nurse responsible for recording the data and punching the cards mastered the technique with only a few minutes of instruction. She has expressed satisfaction with the system and has reported no major difficulties with it. This system is being tried in several more complex situations and can probably be adapted to many areas where a simple written record is needed and where statistical data will prove useful.

Program Notes

The National Science Foundation has reported that 50 percent of scientific reports published and made available for world distribution appear first in English; 16 percent in Russian; 12 percent in German; 10 percent in Japanese; less than 5 percent in French; and less than 1 percent in Chinese.

While Russian and German publications are increasing steadily, French publications are declining.

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Planning of any one agency or even coordinated interagency planning should not be focused upon the handicapping condition of mental retardation, but conceived in terms of services to meet all the needs of an individual, says "Everybody's Child, The Mentally Retarded," a report prepared by the Subcommittee on Mental Retardation to the Governor's Inter-Agency Committee on Health, Education, and Welfare Programs, State of Washington.

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The first court action instituted in Massachusetts by the Public Health Service for feeding raw garbage to pigs in violation of section 72.23 of the Interstate Quarantine Regulations resulted in a conviction. Since the defendant refused to pay a \$100 fine, he was sentenced to 6 months in prison.

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Grantees of the National Institute of Arthritis and Metabolic Diseases have learned that dietary preparations of hexachlorobenzene, a fungicidal agent, can produce porphyria in rats. This discovery supports the suggestion that ingestion of hexachlorobenzene caused the recent outbreak of the disease in Turkey and represents direct experimental evidence of an acquired toxic form of porphyria.

Although porphyria is regarded as an inborn error of metabolism, depending on an inherited constitutional abnormality, porphyria has occasionally occurred following

longed use of a number of drugs, including barbiturates and sulfonamides. Due to the lack of convincing evidence of an acquired form of the disease, it was generally believed that this effect occurred only in individuals having a latent inherited tendency to porphyria.

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Plans for conversion and expansion of the Fairmount Division of Syracuse State School into a residential center for emotionally disturbed children were announced on June 18, 1961, by Governor Nelson Rockefeller of New York State. The highly specialized institution will be a treatment center to provide comprehensive psychiatric care and will also be used for research and demonstration.

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Results of a 5-year followup study, conducted by grantees of the National Institute of Arthritis and Metabolic Diseases, on the effectiveness of various forms of psychotherapy disclose that long-term studies are not conclusive in evaluating the success of psychotherapy since life experiences tend to confound the effects of therapy. The study recommends that the effectiveness of psychotherapy be measured by its ability to reduce the patient's suffering and disability in the shortest time possible. Early observable differences in the effectiveness of the different types of psychotherapy tend to disappear over a period of time.

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Resistance of human malaria to chloroquine was definitely shown for the first time in a study of a Colombian strain of *Plasmodium falciparum*, according to a study published in the *American Journal of Tropical Medicine and Hygiene*, by Dr. Martin D. Young of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases, and Dr. Donald V. Moore of the Southwestern Medical School of the University of Texas.

Since 1945, 400 cities with populations of 25,000 to 100,000 have lost all forms of local mass transportation. One of the earliest acts of President Kennedy was to direct the Secretary of Commerce and the Administrator of the Housing and Home Finance Agency to undertake an immediate and extensive study of urban transportation and the related role of the Federal Government. For this purpose, a contract was signed with the Institute of Public Administration, which expects to complete its work before the end of 1961.

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The New Jersey Visiting Homemaker Service, created in 1953 through State legislation, has trained more than 1,200 homemakers to work in 17 local services.

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Approximately one-fourth of the more than 1,500 U.S. daily and Sunday newspapers have a full or part-time reporter who gives special attention to science, medicine, and technology, Science Service reports. More than one-fifth are full time; one-half are at least half time.

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Recent studies in many cities have shown that one-third to one-half of all vehicles on downtown streets are traveling to other points in the city or beyond, according to Rex M. Whitton, Federal Highway Administrator, Bureau of Public Roads, U.S. Department of Commerce.

Since no metropolitan area has as yet a complete urban freeway system, existing freeway routes or sections of routes are often overloaded during peak periods.

When an urban area freeway system is completed, states Whitton, the interconnected radials, inner loops, and outer beltways will relieve congestion and provide immeasurable benefits to motorists and travelers, to the downtown center, and to the entire city.

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Following a 43 percent rise in syphilis cases, Chicago has resumed testing suspected prostitutes for venereal disease. The tests were discontinued 14 years ago.